IN THE SPECIFICATION

Please amend the specification by replacing paragraphs [0035], [0036], [0046], [0047], [0049], [0058], [0060], [0072], [0082], [0083], [0097], [0110] and [0119] with replacement paragraphs as follows:

[0035] Fa = ~~$4*a*t/S^2$~~ $4*\alpha*t/S^2$, where

[0036] ~~$\alpha = \lambda/(p*c)$~~ $\alpha = \lambda/(\rho*c)$ = the thermal diffusivity constant

[0038] ~~p = density~~ ρ = density

[0046] $\Delta T = \Delta To$ ~~$(1+ 0.15*Fo^{-1.9})$~~ $(1+ 0.15*Fo^{-1.9})$ (1)

[0047] ΔTo = ~~$2*E/(p*c*S)$~~ $2*E/(\rho*c*S)$, where

[0049] ~~p = density~~ ρ = density

[0058] where t/to=Fo, t being = the duration of the thermal pulse, and to = ~~S2/(4*a)~~ S2/(4*α) being a constant characteristic of

[0060] $\Delta T/\Delta To - 1 = 1/A$ (4)

[0072] From an initial temperature Tu (Figure 4), we have a surface temperature ~~Tu+AT~~ Tu+ΔT on the brake disk immediately after braking. However, the temperature in the disk is evened out quickly to Tu+ΔTo, which represents the temperature at which the cooling process begins. The temperature difference between the brake disk and its environment when cooling begins is therefore Tu+ΔTo-Tk, where Tk is the temperature of the cooling element. If the time until the next braking is tn, we have the temperature Tn when the next braking begins.

[0082] Calculation of Remaining/Consumed Life: Figure 5 shows a relationship between maximum total temperature and number of braking cycles for wearing-out using log-log scales. The relationship consists of two linear functions [0] O, P with different slopes. The reason why two curves are used is that the lining on the brake disk is broken down at high temperature and has a tendency to char. This is because, at high temperatures for linings made of paper, a chemical process, carbonization, takes place. The upper curve [0] O, on the left in the figure, describes the strength in a brake disk, the lining of which has reached such a high temperature that charring has started.

[0083] The slope of the curves and the break-point between the upper curve [0] O and the lower curve Pare obtained from rig testing. The slope of the left, upper curve [0] O may, however, be difficult to produce with great accuracy and, in such a case, it can be estimated with, for example, the Arrhenius function.

[0097] D is damage value per unit of time or distance (damage per hour or damage per kilometer), and n 1 and n2 are the number of braking cycles per temperature level and unit of time or distance.

[0110] St = ~~dT*a*E/(l-v)~~ dT*α*E/(l-v)

[0119] The following background documents are hereby expressly incorporated for purposes of disclosure in the present application, and for reference by concerned persons skilled in the relevant art:

[1] Lauster, E. and Staberoh, U. "Wametechnische Berechnungen bei Lamellenkupplungen" VDI-Z 115 (1973);

[2] Kruger, H. "Das Temperaturverhalten der nassen Lamellenkupplungen"Konstruktion 17 (1963);

[3] Tataiah, K. "An Analysis of Automatic Transmission Clutch-Plate Temperatures"SAE 720287;

[4] Roark, RaymondJ. "Formulas for stress and strain."